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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,839	12/02/2003	Matthew Gelfand	36314-00500	5552

27171 7590 04/29/2005

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EXAMINER

PECHHOLD, ALEXANDRA K

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/726,839

Applicant(s)

GELFAND, MATTHEW

Examiner

Alexandra K Pechhold

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 72 is/are allowed.
- 6) ☒ Claim(s) 1-25, 27, 28, 31-66, 68, 69, 73, 76-81, 83-90 and 92 is/are rejected.
- 7) ☒ Claim(s) 26, 29, 30, 67, 70, 71, 74, 75, 82 and 91 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-12, 18-25, 27, 28, 32-55, 61-66, 68, 69, 73, 76-81, 83-90, and 92 are rejected under 35 U.S.C. 102(b) as being anticipated by Ousterhout et al (US 6,312,188).**

Regarding claim 1, Ousterhout discloses an energy absorbing system comprising:

- an anchor, seen as one of the brakes (24),
- a net, seen as barrier (20) (Col 5, lines 38-47 disclose barrier 20 as a net), mechanically coupled to the anchor,
- a support, seen as telescoping support (14), mechanically coupled to the net via a frangible connector, seen as breakaway cord (21),
- wherein the frangible connector uncouples the support from the net upon application of at least a threshold force to the frangible connector, as seen in the progression in Figs. 8-10 and Col 7, lines 20-23.

Regarding claim 2, Ousterhout discloses:

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- a second anchor, seen as the second brake (24), mechanically coupled to the net, and
- a second support, seen as support (16), mechanically coupled to the net,
- wherein the first and second supports are arranged such that at least a portion of the net between them spans an area through which a vehicle may pass, as seen in Figs. 8-10.

Regarding claim 3, Ousterhout discloses a roadway in Col 4, lines 16-19.

Regarding claim 4, Ousterhout discloses a sleeve, seen as the rotated part of deceleration cable (22) in Fig. 13, which is rotatably mechanically coupled to the anchor and mechanically coupled to the net.

Regarding claim 5, Fig. 10 of Ousterhout illustrates the net substantially parallel to a likely direction of a vehicle to be stopped.

Regarding claim 6, a cable end of the net can be viewed as a deceleration cable (22), which is mechanically coupled to a prong of a joint, seen below the support (14) in Fig. 4, which is coupled to the anchor, seen as brake (24).

Regarding claim 7, the net (20) of Ousterhout has a static tensile force in the state seen in Fig. 8, and the threshold force relating to the breakaway cord (21) is greater than the static tensile force, since the cords (21) break away as seen in Figs. 9 and 10.

Regarding claim 8, the frangible connector of Ousterhout includes a cable, seen as breakaway cord (21).

Regarding claims 9 and 10, the supports (14, 16) are telescoping, and therefore may be raised and lowered, and take the form of posts. Ousterhout discloses in column 5, lines 59-60 that deployment of the barrier (20) is by extension of the telescoping supports (14, 16).

Regarding claim 11, the distal end, seen as the top, of the support (14), is directed toward brake (24) when it is lowered.

Regarding claim 12, Ousterhout discloses a propulsion system (Col 4, lines 34-40 and Col 6, lines 1-19).

Regarding claim 18, Ousterhout illustrates in Fig. 4 the net as including a top and bottom cable and vertical cables.

Regarding claim 19, Ousterhout illustrates in Fig. 4 the vertical cables mechanically coupled to a center cable.

Regarding claim 20, Ousterhout illustrates in Fig. 4 a crossbar, which can be viewed as the center horizontal cable.

Regarding claims 21, 22, and 23, Ousterhout discloses an energy absorber, seen as deceleration cables (22), mechanically coupling the net and the anchor. These cables (22) can be viewed as a shock absorber and braking mechanism, since they have a yield strength (Col 4, lines 58-67) and absorb some of the vehicle's impact and assist in braking the vehicle.

Regarding claim 24, a sleeve can be viewed as shaft (68) in Fig. 13, which is rotatably mechanically coupled to the anchor (24) and mechanically coupled to the energy absorber (22) as seen in Fig. 13.

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Regarding claim 25, the deceleration cable (22) of Ousterhout extends in a direction substantially parallel to a likely direction of a vehicle to be stopped by the system as shown in Fig. 10.

Regarding claim 27, a joint mechanically coupling the energy absorber and the anchor can be viewed as the shaft (68) in the details of the braking system in Fig. 13, wherein the shaft (68) pivots on a horizontal axis, since it can rotate.

Regarding claim 28, such a stop plate as recited can be viewed as the governor (78) in Fig. 13.

Regarding claim 32, a socket can be viewed as the point where the cable (22) extends in and out of the brake system (24) housing.

Regarding claims 33 and 34. Figs. 4, 10, and 11 of Ousterhout illustrate the net mechanically coupled to the anchor system at a point that is at ground level, though slightly above it.

Regarding claim 35, the brake system (24) seen in Fig. 4 can be viewed as a stanchion, since it is an upright support, and Merriam Webster's Online Dictionary defines "stanchion" as "1 : an upright bar, post, or support".

Regarding claim 36, Ousterhout discloses an energy absorbing system comprising:

- an anchor, seen as one of the brakes (24),
- a first energy absorber, seen as the deceleration cable (22) on one side of the barrier (20), mechanically coupled to the anchor as seen in Fig. 4,

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- a second energy absorber, seen as the deceleration cable (22) on the other side of the barrier (20), mechanically coupled to the anchor as seen in Fig. 4,
- a net, seen as barrier (20) (Col 5, lines 38-47 disclose barrier 20 as a net), mechanically coupled to the anchor,
- a support, seen as telescoping support (14), mechanically coupled to the net via a frangible connector, seen as breakaway cord (21),
- wherein the frangible connector uncouples the support from the net upon application of at least a threshold force to the frangible connector, as seen in the progression in Figs. 8-10 and Col 7, lines 20-23.

Regarding claim 37, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 9 above.

Regarding claim 38, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 2 above.

Regarding claim 39, a sleeve can be viewed as shaft (68) in Fig. 13, which is rotatably mechanically coupled to the anchor and mechanically coupled to the first and second energy absorbers as seen in Fig. 13.

Regarding claim 40, a first and second joint can be viewed as the shafts (68) on either side of the barrier in Fig. 13, which are mechanically coupling each of the first and second energy absorbers to the anchor, as seen in Fig. 13, and wherein the shafts (68) pivot on a horizontal axis, since they can rotate.

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Regarding claim 41, a crossbar can be viewed as either the elastic cord (36) or the an horizontal cable in barrier (20), which is connected to the deceleration cables (22).

Regarding claim 42, Ousterhout discloses an energy absorbing system comprising:

- an anchor, seen as one of the brakes (24),
- a sleeve, seen as shaft (68), rotatably mechanically coupled to the anchor, as seen in Fig. 13,
- a net, seen as barrier (20) (Col 5, lines 38-47 disclose barrier 20 as a net), mechanically coupled to the sleeve (by the deceleration cable 22),
- a support, seen as telescoping support (14), mechanically coupled to the net via a frangible connector, seen as breakaway cord (21),
- wherein the frangible connector uncouples the support from the net upon application of at least a threshold force to the frangible connector, as seen in the progression in Figs. 8-10 and Col 7, lines 20-23,
- wherein the support may be raised or lowered since the supports (14, 16) are disclosed as telescoping and deployment of the barrier (20) is by extension of the telescoping supports (14, 16) (Col 5, lines 59-60).

Regarding claim 43, Ousterhout discloses:

- a second anchor, seen as the second brake (24), coupled to the net, and
- a second support, seen as telescoping support (16), coupled to the net,

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- wherein the first and second supports are arranged such that at least a portion of the net between them spans an area through which a vehicle may pass, as seen in Figs. 8-10.

Regarding claim 44, Ousterhout discloses an energy absorber, seen as either of the deceleration cables (22), mechanically coupled to the shaft (68) to the net.

Regarding claim 45, Ousterhout discloses a joint, seen as shaft (68) in Fig. 13, mechanically coupling the deceleration cable (22) and the brake (24), wherein the joint pivots on a horizontal axis since it is capable of rotating.

Regarding claim 46, Ousterhout discloses a method for absorbing the energy of an errant vehicle, as discussed with respect to the structure in claim 1 above.

Regarding claim 47, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 2 above, and illustrates such a vehicle in Figs. 8-10.

Regarding claim 48, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 3 above.

Regarding claim 49, Ousterhout discloses a sleeve, seen as shaft (68), rotatably mechanically coupled to the anchor, as seen in Fig. 13, and mechanically coupled to the net.

Regarding claim 50, Fig. 10 of Ousterhout illustrates the net substantially parallel to a likely direction of a vehicle to be stopped.

Regarding claim 51, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 6 above.

Regarding claim 52, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 7 above.

Regarding claim 53, the breakaway cord (21) of Ousterhout is a frangible connector.

Regarding claim 54, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 9 above.

Regarding claim 55, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 9 above.

Regarding claim 61, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 18 above.

Regarding claim 62, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 19 above.

Regarding claim 63, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 20 above.

Regarding claim 64, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 21 above.

Regarding claim 65, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 24 above.

Regarding claim 66, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 25 above.

Regarding claim 68, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 27 above.

Regarding claim 69, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 28 above.

Regarding claim 73, Ousterhout discloses an energy absorbing system comprising:

- means for absorbing energy, seen as deceleration cables (22),
- means for restraining a vehicle, seen as barrier (20), the barrier being connected to the cables (22) to enable the transfer of energy from a vehicle impacting the restraining means to the energy absorbing means, and
- means for supporting the restraining means, seen as supports (14, 16), in a position likely to be impacted by an errant vehicle until the application of at least a threshold force by the vehicle to the restraining means, since the cord (21) breaks away upon a threshold force as seen in the progression in Figs. 8-10 and Col 7, lines 20-23.

Regarding claim 76, Ousterhout discloses raising and lowering means since the supports (14, 16) are telescoping and are forced upward by propulsion means.

Regarding claim 77, Ousterhout discloses an energy absorbing system comprising:

- an anchor, seen as brake (24),
- a net mechanically coupled to the anchor, seen as barrier (20), and
- a support mechanically coupled to the net, seen as support (14),
- wherein the anchor and the support are arranged such that at least a portion of the net between the anchor and the support is substantially parallel to a likely

direction of a vehicle to be stopped by the energy absorbing system, as seen in Fig. 10.

Regarding claim 78, Ousterhout discloses an energy absorber, seen as deceleration cable (22), mechanically coupling the net and the anchor.

Regarding claim 79, Fig. 10 of Ousterhout discloses the deceleration cable (22) arranged in a direction not substantially perpendicular to a likely direction of a vehicle to be stopped by the energy absorbing system.

Regarding claim 80, Ousterhout discloses a sleeve, seen as shaft (68) in Fig. 13, rotatably mechanically coupled to the anchor and mechanically coupled to the energy absorber.

Regarding claim 81, Fig. 10 of Ousterhout illustrates the deceleration cable (22) arranged in a direction substantially parallel to a likely direction of a vehicle to be stopped by the energy absorbing system.

Regarding claim 83, a joint mechanically coupling the deceleration cable (22) to anchor (24) can be seen as the shaft (68) disc brakes in Fig. 13.

Regarding claim 84, the shaft (68) pivots on an axis, since it can rotate, and a stop plate can be seen as governor (78) in Fig. 13, which prevents the joint from pivoting beyond a predetermined angle.

Regarding claim 85, a non-frangible connector can be seen as breakaway cord (21).

Regarding claim 86, the cord (21) breaks away upon a threshold force, as seen in the progression in Figs. 8-10, thereby expanding

Regarding claim 87, after a threshold force is applied to the cord (21) and it separates from the support (14 or 16), it can thereafter contract once when the force is released and it “snaps” back towards the support.

Regarding claim 88, the support (14 or 16) includes a section mechanically coupled to the net, seen in Fig. 4 where breakaway cord (21) connects the barrier (20) to the support (14, 16), and the cord (21) separates from the support upon application of at least a threshold force to the section as seen in Figs. 8-10.

Regarding claim 89, Ousterhout discloses the limitations of the claimed invention as discussed with respect to claim 2 above.

Regarding claim 90, Ousterhout discloses:

- a first energy absorber, seen as deceleration cable (21), mechanically coupling the net and anchor as seen in Fig. 4,
- a second anchor, seen as (24) in Fig. 4, mechanically coupled to the net via the second deceleration cable (21), and
- a second support, seen as support (16), mechanically coupled to the net,
- wherein the deceleration cables (21) are arranged in a direction not substantially perpendicular to a likely direction of a vehicle to be stopped by the energy absorbing system, as seen in Fig. 10.

Regarding claim 92, Ousterhout discloses:

- an anchor, seen as (24) in Fig. 4,
- a net, seen as barrier (20) (Col 5, lines 38-47 disclose barrier 20 as a net), mechanically coupled to the anchor as seen in Fig. 4,

- a support, seen as support (14), mechanically coupled to the net, wherein the anchor and support are arranged such that at least a portion of the net between the anchor and the support is not substantially perpendicular to a likely direction of a vehicle to be stopped by the energy absorbing system, as seen in Fig. 10.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 13 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ousterhout et al (US 6,312,188) as applied to claims 12 and 54 above, and further in view of Dickinson (US 4,715,742).** Ousterhout fails to disclose the supports (14, 16) being raised by a spring. Dickinson teaches raising and lowering a traffic control bollard with the energy of a spring (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the propulsion system of Ousterhout to instead utilize a spring as taught by Dickinson, since Dickinson states in column 1, lines 30-40 that such a retractable bollard can be instantaneously lifted into a working position by spring means.

5. **Claims 14-17 and 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ousterhout et al (US 6,312,188) as applied to claims 12 and 54**

above, and further in view of Gelfand et al (US 5,762,443). Ousterhout fails to disclose the supports (14, 16) being raised by a motor, controlled by a user or train-sensing mechanism or security system, instead disclosing a propulsion system.

Gelfand teaches stanchions operated by lift motors (162) and utilizing a control system (not disclosed) to sense the presence of an oncoming train and thereby control net operations (Col 8, lines 49-63). Such a control system can be envisioned as a security system and controlled by a user, if the control system has an element of manual operation or input. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the propulsion system of Ousterhout to instead utilize a motor, or be controlled by a user, or a train-sensing mechanism, or a security system, as taught by Gelfand, since Gelfand teaches alternative means for raising and lowering posts, and does not require the material input and costs of Ousterhout's propulsion means.

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ousterhout et al (US 6,312,188) as applied to claim 1 above, and further in view of Bernard (US 4,102,518). Ousterhout fails to disclose the net mechanically coupled to the anchor at a point below ground level. Bernard teaches a net anchored below ground as seen in Fig. 2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the anchor of Ousterhout to be located at a point below ground level as taught by Bernard, since a below-ground level anchoring system can assist in providing greater strength to the anchoring ability to arrest the moving vehicle.

Allowable Subject Matter

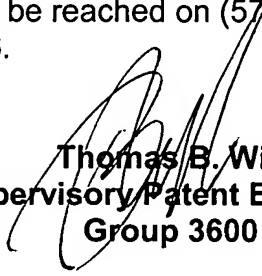
7. Claims 26, 29, 30, 67, 70, 71, 74, 75, 82, and 91 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Claim 72 is allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (571) 272-6994. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (571) 272-6998. The fax phone number for this Group is (703) 872-9306.


Thomas B. Will
Supervisory Patent Examiner
Group 3600

AKP
4/20/05